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Project Title: **Development of High Angle of Attack CFD Aerodynamics Database & Behaviour Model of Missile Configuration at Varying Geometric and Flow Parameters.**

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Abstract:

Magnetic sensors are essential components of contemporary electronics. It is practically utilized in consumer electronics, medical equipment, cars, aerospace gadgets, communication systems, and defence applications. Magnetic sensors are essential to navigation, underwater surveillance, submarine detection, magnetic anomaly detection, and Earth's magnetic field monitoring in naval systems. The development of extremely sensitive and dependable magnetic sensors has become crucial for cutting-edge defence and maritime technologies because of its strategic significance. High-precision magnetic sensors with superior sensitivity, stability, and low noise characteristics are still difficult to fabricate, nevertheless. Promising advancements in this field are shown in a number of study papers and scholarly publications. Despite these advancements, there is still a lack of large-scale practical application and optimization of magnetic sensors for actual naval applications. Therefore, it is imperative that current research findings be integrated and converged into a targeted technological framework for the production of effective and application-focused magnetic sensors. Using the DC co-sputtering process, which provides exact control over the composition, thickness, microstructure, and magnetic characteristics of thin films, the current idea seeks to create domestic magnetic sensor elements. In order to improve sensing performance, the project suggests creating and refining two distinct kinds of magnetic sensor elements. To maximize the sensor responsiveness, sensitivity, repeatability, and operational stability, extensive research on structural, magnetic, electrical, and sensing characteristics will be conducted. The effective implementation of these magnetic sensor components will greatly develop India's sophisticated magnetic sensing applications, strategic military capability, and domestic naval sensor technology.